

A REVISION OF THE FUR MITES MYOBIIDAE (ACARINA) (suite)

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RADFORDIA INAEQUALIS Ewing, 1938.

Radfordia inaequalis Ewing, 1938 *Proc. ent. Soc. Wash.* **40** : 7, 189.

The female dorsum (fig. 90) has lateral spines I anterior to coxae II; lateral spines II posterior to coxae II; lateral spines III level with posterior edge of coxae III; lateral spines I to III and sub-median spines I to VI foliate, with herring-bone striation. Sub-median spines I level with lateral spines I, slightly longer; sub-median spines II level with coxae II; sub-median spines III anterior to coxae III, sub-median spines IV level with posterior edge of coxae III; sub-median spines V anterior to coxae IV; sub-median spines VI level with posterior edge of coxae IV. Two pairs of stout spines placed between sub-median spines VI and terminal bristles. Anterior to the paired genital claws is a pair of small spines; a pair of spines close to posterior edge of the body.

The female venter (fig. 91) has a pair of spines anterior to coxae II; a pair of spines lying level with anterior edge of coxae II; anterior to coxae III is a pair of long spines flanked laterally by a pair of smaller spines; midway between coxae III and IV is a pair of long spines; level with coxae IV is a pair of very small spines; a pair of long spines placed below the level of posterior edge of coxae IV; a pair of long spines placed between, and level with, the terminal bristles. Tarsus II, III and IV each bearing two unequal claws.

The male is unknown.

Type host : Free-tailed bat (*Tadarida cynocephala*).

Type locality : Leon County, Florida, U. S. A. April 27, 1934.
E. V. Komarek.

Measurements : ♀ 0.42 mm × 0.25 mm.

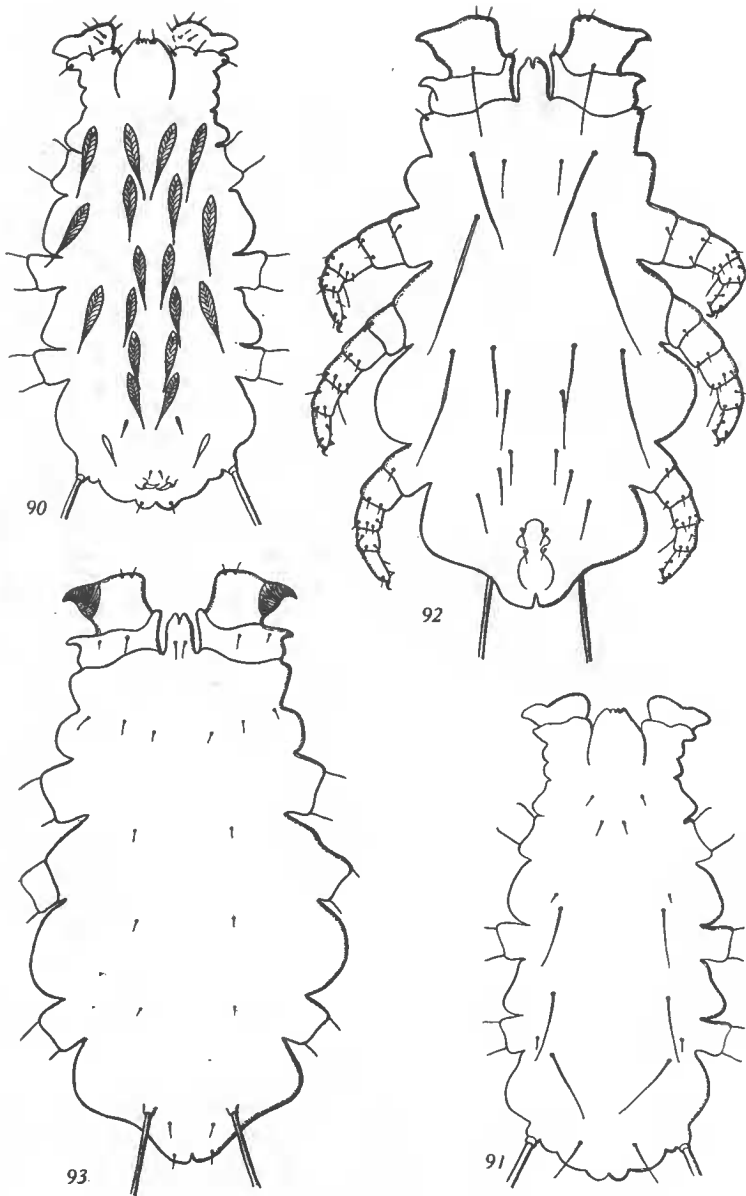
Holotype female in U. S. National Museum. N° 1282.

RADFORDIA NOCTULIA (Radford, 1938).

Myobia noctulia Radford, 1938, *Parasitology*, **30** : 4, 437.

The male dorsum has lateral spines I to III and sub-median spines I to III broad at base, spear-shaped, with long slender tips,

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Radfordia inaequalis Ewing 1938.

FIG. 90, ♀ dorsum. — FIG. 91, ♀ venter.

Radfordia ceylonica sp. n.

FIG. 92, ♀ dorsum. — FIG. 93, ♀ venter.

striated longitudinally. Lateral spines I anterior to coxae II, extending to middle of coxae III; lateral spines II midway between coxae II and III, extending to middle of coxae IV; lateral spines III posterior to coxae III, extending to midway between coxae IV and posterior end of body. On the lateral edge of body, posterior to coxae IV is a pair of long, thick spines, extending to posterior tip of body. Sub-median spines I missing or not apparent; sub-median spines II level with posterior edge of coxae II, extending to coxae III; sub-median spines III level with coxae III, extending to coxae IV; sub-median spines IV posterior to coxae III, extending to midway between coxae IV and posterior end of body. Anterior to terminal bristles are three pairs of small spines. Genital pore level with anterior edge of coxae III, with three pairs of minute spines posteriorly. Penis long, extending from midway between coxae IV and posterior end of body, to level of coxae III, in shape not unlike a hockey stick.

The male venter has two pairs of small spines anterior to coxae II; level with anterior edge of coxae III is a pair of long spines, flanked laterally by two pairs of small spines; posterior to coxae III is a pair of long spines; level with coxae IV close to the median line of body is a pair of stout spines, two-jointed.

The female dorsum has lateral spines I anterior to coxae II, reaching almost to coxae III; lateral spines II placed midway between coxae II and III, extending to coxae IV; lateral spines III posterior to coxae III, extending to midway between coxae IV and posterior end of body. Lateral spines I to III and sub-median spines I to VI foliate, longitudinally striated. Sub-median spines I level with anterior edge of coxae II; sub-median spines II midway between coxae II and III; sub-median spines III level with coxae III; sub-median spines IV midway between coxae III and IV; sub-median spines V level with anterior edge of coxae IV; sub-median spines VI level with posterior edge of coxae IV. Between sub-median spines VI and posterior end of body are three pairs of small spines arranged in two diverging rows. Flanking the anus is a pair of spines; on the posterior end of body is a pair of spines.

The female venter has two pair of spines anterior to coxae II; anterior to coxae III is a pair of long spines with two pairs of small spines laterally; midway between coxae III and IV is a pair of long spines; level with posterior edge of coxae IV are two pairs of spines, the median pair being the longer. Midway between coxae IV and posterior end of body are two areas which appear to be the bases of a pair of stout spines as present in the male. Level with terminal bristles is a transverse row of four spines, and a pair of spines is present on the posterior tip of body.

Type host: Noctule bat (*Nyctalus noctula* Schreber).

Type locality : England. October, 1919. S. Hirst.
Measurements : ♂ 0.5 mm × 0.2 mm ; ♀ 0.6 mm × 0.2 mm.
Holotype male and allotype female on one slide in British Museum (Nat. Hist.) not numbered.

RADFORDIA MINUTA (Radford, 1940).

Myobia minuta Radford, 1940 *Parasitology*, **32** : I, 95.

The male venter has lateral spines I anterior to coxae II, long, slender ; lateral spines II almost level with anterior edge of coxae II, long, slender, extending to coxae III ; lateral spines III level with anterior edge of coxae III, extending to coxae IV. Flanking lateral spines I internally is a pair of small spines ; flanking lateral spines III on the outside is a pair of small spines. Sub-median spines I minute, anterior to coxae II ; sub-median spines II level with coxae II. There is no evidence of further spines of the sub-median or median rows normally found in the *Myobiidae*. Midway between coxae IV and posterior end of body is a pair of small spines on the lateral edge. Genital pore level with middle of coxae II. Penis stout, reaching from posterior edge of coxae IV forwards to genital pore.

The male venter has one pair of spines level with anterior edge of coxae II ; between coxae II and III are three pairs of spines ; level with posterior edge of coxae III is a pair of spines ; between coxae IV are two pairs of spines. Tarsus II, III and IV each with a pair of short, stout claws.

The female is unknown.

Type host : Bat.

Type locality : Kapretwa, Mt Elgon, Kenya.

Measurements ; ♂ 0.22 mm × 0.16 mm.

Holotype male in British Museum (Nat. Hist). No 1940-2-2-4.

RADFORDIA CLARA (Womersley, 1941).

Myobia clara Womersley, 1941 *Rec. S. Aust. Mus.* **7** : 53.

The female dorsum has lateral and sub-median spines spatulate, elongated. Lateral spines I between coxae I and II, extending to midway between coxae II and III ; lateral spines II anterior to distal free ends of preceding spines, extending beyond posterior edge of coxae III ; lateral spines III close to posterior edge of coxae III, exceptionally long, their distal free ends extending beyond coxae IV. Sub-median spines I broader than all other dorsal spines, anterior to coxae II ; sub-median spines II anterior to lateral spines II ; sub-median spines III level with anterior edge of coxae III ;

sub-median spines IV posterior to level of lateral spines III ; sub-median spines V level with anterior edge of coxae IV ; sub-median spines VI posterior to coxae IV. Between sub-median spines VI and terminal bristles are six spines arranged in two diverging rows. Genital pore situated on the caudal lobe level with terminal bristles. No genital chaetotaxy is shown in Womersley's figure.

The female venter has four pairs of long spines. One pair anterior to coxae III ; a pair anterior to coxae IV ; a pair posterior to coxae IV and the fourth pair level with terminal bristles. Tarsus II, III and IV each with two long, equal claws.

Type host : Bat.

Type locality : South Australia.

Measurements : ♀ 0.42 mm × 0.17 mm.

Holotype female in the South Australian Museum, Adelaide.

RADFORDIA CHALINOLOBUS (Womersley, 1941).

Myobia chalinolobus Womersley, 1941 *Rec. S. Aust. Mus.* 7 ; 55.

WOMERSLEY (1941, fig. 3 a) gives a drawing of the dorsum of the female in which he depicts only the lateral spines I, II and III plus the minute sub-median spines I, and a few small spines on the posterior end of the body. No mention is made in his description, of the sub-median spines which one finds in the *Myobiidae* and one can only assume these were missing on the type specimen. For this reason it is hard to assess the validity of this species until the type is redescribed or further specimens of this species are obtained for examination.

The female venter (WOMERSLEY, 1941, fig. 3 b) two pairs of spines lie anterior to coxae II ; anterior to coxae III are three pairs of spines ; one pair of spines lying between coxae III and IV ; two pairs of spines posterior to coxae IV in a transverse row ; one pair of spines close to the posterior end of body. Tarsus II, III and IV each with two equally stout claws.

The male is unknown.

Type host : Gould's bat (*Chalinolobus gouldi* Gray).

Type locality : South Australia.

Measurements : ♀ 0.32 mm × 0.23 mm.

Holotype female in South Australian Museum, Adelaide.

Radfordia ceylonica sp. n.

The female dorsum (fig. 92) has lateral spines I between coxae I and II, long, simple, reaching posterior edge of coxae II ; lateral spines II level with coxae II, reaching beyond posterior edge of

coxae III ; lateral spines III level with posterior edge of coxae III. Sub-median spines I slender, almost level with lateral spines I ; sub-median spines II level with lateral spines III ; sub-median spines III midway between coxae III and IV ; sub-median spines IV, V and VI forming two diverging rows. Genital pore with a sclerotic scutum and two pairs of spines.

The female venter (fig. 93) has three pairs of spines anterior to coxae II ; between coxae II and III is a pair of spines ; posterior to coxae III is a pair of spines ; level with coxae IV is a pair of spines ; two pairs of small spines flank the anus, level with the terminal bristles. Tarsus II, III and IV each with a triangular, spur-like process at the inner, distal tip.

The male is unknown.

Type host : Dekkhan leaf-nosed bat (*Hipposideros brachyotis* Dobson).

Type locality : Colombo, Ceylon. May 17, 1944. C. D. Radford.

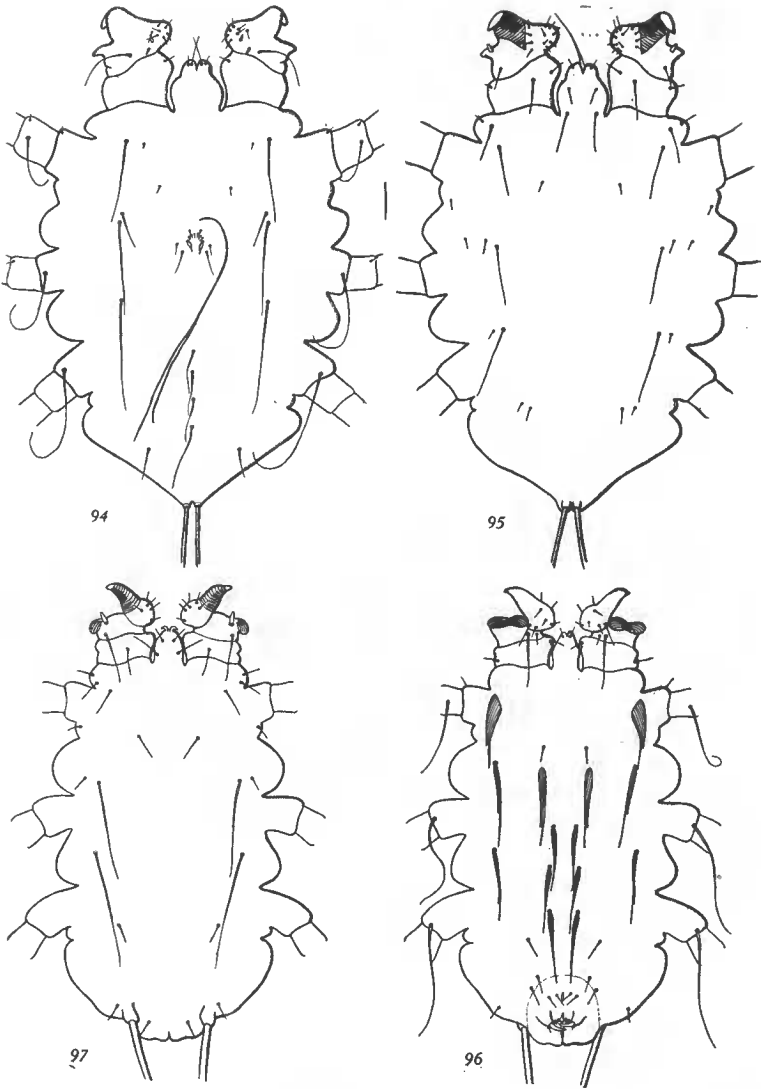
Measurements : ♀ 0.36 mm × 0.23 mm.

Holotype female and paratypes in the author's private collection.

Radfordia aegyptica sp. n.

The male dorsum (fig. 94) has lateral spines I level with anterior edge of coxae II, long, simple, reaching lateral spines II ; lateral spines II midway between coxae II and III ; lateral spines III posterior to coxae III, extending beyond posterior edge of coxae IV ; lateral spines IV closer to posterior end of body. Sub-median spines I minute, close to bases of lateral spines I ; sub-median spines II minute, posterior to coxae II ; sub-median spines III anterior to lateral spines II, long, slender. Median spines I, II, III and IV extending in a line between coxae IV and the terminal bristles. Genital pore anterior to coxae III, surrounded by four pairs of minute spines ; laterally by a pair of broad, lanceolate spines and two pairs of long spines. Penis long, tapering, extending from posterior end of body, diagonally across the body, where it turns round to a hook-like tip anterior to the genital pore.

The male venter (fig. 95) has two pairs of spines anterior to coxae II ; third pair of spines level with anterior edge of coxae II, twice the length of preceding spines ; a pair of small spines level with coxae II ; posterior to coxae II is a pair of spines close to lateral edge of body ; anterior to coxae III is a pair of long spines, flanked laterally by two pairs of small spines ; anterior to coxae IV is a pair of long spines and an accessory pair of spines ; posterior to coxae IV are two pairs of spines, the lateral pair being the smaller. Tarsus II with two short, stout claws ; tarsus III and IV each with one long claw.



Radfordia aegyptica sp. n.
FIG. 94, ♂ dorsum. — FIG. 95, ♂ venter.

Radfordia sigmodontis sp. n.
FIG. 96, ♀ dorsum. — FIG. 97, ♀ venter.

The female is unknown.

Type host : A gerbil (*Gerbillus* sp.).

Type locality : Cairo, Egypt. August 1944. Major S. L. Kalra,
I. A. M. C.

Measurements : ♂ 0.35 mm × 0.22 mm.

Holotype male in the author's private collection.

Radfordia sigmodontis sp. n.

The female dorsum (fig. 96) has lateral spines I expanded at base, two-jointed, striated longitudinally, placed below level of anterior edge of coxae II; lateral spines II midway between coxae II and III, slightly expanded, two-jointed, striated; lateral spines III posterior to coxae III, two-jointed, striated, shorter than preceding spines; lateral spines IV small, close to posterior edge of body. Sub-median spines I small, simple, level with barbs of lateral spines I; sub-median spines II expanded, two-jointed, striated, lying midway between coxae II and III; sub-median spines III level with coxae III, long, striated; sub-median spines IV midway between coxae III and IV; sub-median spines V level with coxae IV. Flanking these spines laterally is a pair of small, simple spines posterior to coxae IV. Two pairs of simple spines anterior to the genital pore; flanking the pore are two pairs of simple spines; two pairs of spines lying between the paired genital claws; posterior to the pore is a pair of small spines.

The female venter (fig. 97) has two pairs of spines anterior to coxae II; a pair of spines level with anterior edge of coxae II; posterior to coxae II is a pair of long spines, flanked laterally by a pair of accessory spines; anterior to coxae III is a pair of long spines, flanked laterally by a pair of accessory spines; midway between coxae III and IV is a pair of very long spines; level with posterior edge of coxae IV is a pair of small spines. Flanking the base of terminal bristles is a pair of small spines laterally and a pair between the bristles. Tarsus II with a pair of long claws; tarsus III and IV each with one claw.

The male is unknown.

Type host : Cotton rat (*Sigmodon hispidus texianus* Audobon et Bachman).

Type locality : La Marque, Texas. October 26, 1944 R. W. Strandmann.

Measurements : ♀ 0.57 mm × 0.31 mm.

Holotype female in the author's private collection.